

**PROTOCOL BETWEEN THE GOVERNMENT OF CANADA AND THE
GOVERNMENT OF THE UNION OF SOVIET SOCIALIST REPUBLICS
REGARDING SETTLEMENT OF CLAIM FOR DAMAGE CAUSED BY
"COSMOS 954" WITH STATEMENT OF THE CANADIAN CLAIM**

20 ILM 689

Signed and proclaimed at Moscow
2 April 1981^{*}

The Government of Canada and Government of the Union of Soviet Socialist Republics,
have agreed as follows:

ARTICLE I

The Government of the Union of Soviet Socialist Republics shall pay to the Government of Canada the sum of three million Canadian dollars (C\$ 3,000,000.00) in full and final settlement of all matters connected with the disintegration of the Soviet satellite Cosmos 954 in January 1978.

ARTICLE II

The Government of Canada shall accept the payment of the sum of three million Canadian dollars (C\$ 3,000,000.00) in full and final settlement of all those matters referred to in Article I hereof, including the claim advanced by Canada in this respect.

ARTICLE III

This Protocol shall enter into force on the date of signature. In witness whereof the undersigned, duly authorized by their respective Governments, have signed this Protocol.

^{*} This protocol is the only example of case law to date which in part applies the 1972 Liability Convention.

Done in duplicate at Moscow this second day of April 1981, in the English, French and Russian languages, all texts being equally authentic.

STATEMENT OF CLAIM

INTRODUCTION

1. This Statement sets forth Canada's claim for compensation for damage the result of the intrusion into Canadian air space of a Soviet space object, the Cosmos 954 satellite, and the deposit on Canadian territory of hazardous radioactive debris from the satellite. The claim is presented pursuant to the 1972 Convention on International Liability for Damage caused by Space Objects and the international practice of states. The Statement outlines the facts giving rise to the claim, the legal principles applicable to the claim, the compensation claimed and certain reservations entered by Canada.

THE FACTS

2. The Soviet space object, the Cosmos 954 satellite, hereinafter also referred to as the satellite, was placed in orbit by the Union of Soviet Socialist Republics on September 18, 1977. The Secretary-General of the United Nations was officially informed of the launching, as reported in United Nations document No. A/AC.105/INF.368 of November 22, 1977. According to the Note of March 21, 1978 of the Embassy of the Union of Soviet Socialist Republics in Ottawa, the satellite carried on board a "... nuclear reactor working on uranium enriched with isotope of uranium-235". On January 24, 1978, the satellite entered the earth's atmosphere intruding into Canadian air space at about 11:53 A.M. Greenwich Mean Time to the north of the Queen Charlotte Islands on the west coast of Canada. On re-entry and disintegration, debris from the satellite was deposited on Canadian territory, including portions of the Northwest Territories, Alberta and Saskatchewan.

3. Within minutes of the re-entry and the intrusion of the satellite into Canadian air space the Government of the United States of America made an offer of technical and materiel assistance to assist Canadian emergency operations. This offer of assistance was accepted immediately by the Government of Canada.

4. In the course of the day January 24, 1978, an official of the Department of External Affairs expressed to the Ambassador of the Union of Soviet Socialist Republics in Ottawa the surprise of the Government of Canada that the Government of the Union of

Soviet Socialist Republics had failed to give Canada notice of the possible re-entry of the satellite into the earth's atmosphere in the region of Canada and subsequently, of the imminent re-entry of the satellite. The Canadian official put questions to the Ambassador concerning the satellite and, noting information as to the presence of a nuclear reactor on board the satellite, requested that precise responses be provided urgently. The questions posed on that occasion were reiterated on January 27, 1978 and are recorded in the Department of External Affairs Aide-Memoire of February 8, 1978 presented to the Embassy.

5. Later on January 24, 1978, the Ambassador of the Union of Soviet Socialist Republics advised an official of the Department of External Affairs that the satellite had been expected to enter the dense layers of the atmosphere on January 24, 1978 and, in case it did not burn out completely in the atmosphere, the possibility that some of its parts would fall in the area of the Aleutian Islands was not excluded. The Ambassador asserted that there should not be any sizeable hazard and that in places of impact there could only be insignificant local pollution requiring very limited measures of disactivation. He also stated that the construction of the nuclear reactor on board the satellite envisaged its complete destruction on re-entry of the satellite into the dense layers of the atmosphere. On that occasion, the Ambassador expressed his Government's readiness to render urgent assistance by sending to Canada a group of specialists to ameliorate the possible consequences and evacuate remnants of the satellite. Canadian officials replied that their urgent need was for immediate and complete answers to the questions posed earlier on January 24, 1978.

6. In the Note of March 21, 1978, the Embassy informed the Department of External Affairs that the active zone of the nuclear reactor on board the satellite "... was a set of heat-emitting elements with a berillium reflector" and that "The reactor's design provided for destruction of the reflector at the entry into dense layers of the atmosphere to be followed by the total destruction of the reactor's active zone".

7. The Government of the Union of Soviet Socialist Republics failed to provide timely and complete replies to the questions posed by Canada on January 24, 1978 despite the reiteration of the request for information on several occasions, in particular in the Department of External Affairs' Aide-Memoire of February 8, 1978, in its Note of February 28, 1978 to the Embassy and in its Note of April 13, 1978 to the Embassy. The Government of the Union of Soviet Socialist Republics ultimately provided some information in the Notes of the Embassy dated March 21, 1978 and May 31, 1978. This

information, particularly that in the latter Note, contributed to the Canadian evaluation of the required course of action.

8. Upon the intrusion of the satellite into Canadian air space and with the apprehension of the deposit of hazardous radioactive debris from the satellite on Canadian territory, the Canadian Armed Forces and the Atomic Energy Control Board of Canada undertook operations directed at locating, recovering, removing and testing the debris and cleaning up the affected areas. The purpose of these operations was to identify the nature and extent of the damage caused by the debris, to limit the existing damage and to minimize the risk of further damage and to restore to the extent possible the affected areas to the condition that would have existed if the intrusion of the satellite and the deposit of the debris had not occurred. The operations took place in two phases: Phase I from January 24, 1978 to April 20, 1978 and Phase II from April 21, 1978 to October 15, 1978. The total cost incurred by the various Canadian Departments and Agencies involved in Phase I of the operations was \$ 12,048,239.11 of which \$ 4,414,348.86 are included in Canada's claim. The total cost incurred during Phase II of the operations was \$ 1,921,904.55 of which \$ 1,626,825.84 are included in Canada's claim. In sum, Canada claims from the Union of Soviet Socialist Republics payment in the amount of \$ 6,041,174.70.

9. During the operations described in paragraph 8, debris from the satellite was found in areas of the Northwest Territories and the Provinces of Alberta and Saskatchewan. Lists describing the location of the debris are set forth in annexes to the Department of External Affairs Notes dated February 8, 1978, March 3, 1978 and December 18, 1978, to the Embassy of the Union of Soviet Socialist Republics. Inscriptions in the Cyrillic alphabet can be distinguished on one of the fragments recovered.

10. The Canadian authorities determined that all but two of the fragments recovered were radioactive. Some fragments located proved to be of lethal radioactivity. It was necessary for the debris to be handled with great care as it is well established that radioactive material can have serious physiological effects and in some cases can be fatal. The debris recovered was sent to the Canadian Government's Whiteshell Nuclear Research Establishment at Pinawa, Manitoba. There tests were carried out on the debris, the results of which provided valuable information that was of assistance with regard to the operations and confirmed that highly radioactive and dangerous debris from the satellite had been deposited on Canadian territory.

11. The Government of Canada informed the Secretary-General of the United Nations of the discovery of debris from the satellite as is indicated in United Nations documents

A/AC.105/214 and 214/Corr.1 of February 8, 1978; A/AC.105/217 of March 6, 1978 and A/AC.105/236 of December 22, 1978.

12. In addition to general admissions as to the origin of the Cosmos 954 satellite, the Government of the Union of Soviet Socialist Republics confirmed the Canadian conclusion as to the origin and identity of the recovered debris by admissions contained in the statement made on February 14, 1978 in the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space by Academician Fedorov, a representative of the Union of Soviet Socialist Republics. In addition, the Note from the Embassy of the Union of Soviet Socialist Republics in Ottawa dated May 31, 1978 includes admissions to the effect that debris found in the Northwest Territories of Canada originated from the satellite.

13. It is thus beyond doubt on the basis of the operations described above and on the basis of admissions by representatives of the Union of Soviet Socialist Republics that the debris found in the areas covered by the operations originated from the Soviet space object identified as the Cosmos 954 satellite.

THE LAW

14. Canada's claim is based jointly and separately on (a) the relevant international agreements and in particular the 1972 Convention on International Liability for Damage caused by Space Objects, to which both Canada and the Union of Soviet Socialist Republics are parties, and (b) general principles of international law.

(a) International Agreements

15. Under Article II of the Convention on International Liability for Damage caused by Space Objects, hereinafter also referred to as the Convention, "A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth ..." The Union of Soviet Socialist Republics, as the launching State of the Cosmos 954 satellite, has an absolute liability to pay compensation to Canada for the damage caused by this satellite. The deposit of hazardous radioactive debris from the satellite throughout a large area of Canadian territory, and the presence of that debris in the environment rendering part of Canada's territory unfit for use, constituted "damage to property" within the meaning of the Convention.

16. The intrusion into Canadian air space of a satellite carrying on board a nuclear reactor and the break-up of the satellite over Canadian territory created a clear and immediate apprehension of damage, including nuclear damage, to persons and property in Canada. The Government of the Union of Soviet Socialist Republics failed to give the Government of Canada prior notification of the imminent re-entry of the nuclear powered satellite and failed to provide timely and complete answers to the Canadian questions of January 24, 1978 concerning the satellite. It thus failed to minimize the deleterious results of the intrusion of the satellite into Canadian air space.

17. Under general principles of international law, Canada had a duty to take the necessary measures to prevent and reduce the harmful consequences of the damage and thereby to mitigate damages. Thus, with respect to the debris, it was necessary for Canada to undertake without delay operations of search, recovery, removal, testing and clean-up. These operations were also carried out in order to comply with the requirements of the domestic law of Canada. Moreover, Article VI of the Convention imposes on the claimant State a duty to observe reasonable standards of care with respect to damage caused by a space object.

18. The operations described in paragraph 8 above would not have been necessary and would not have been undertaken had it not been for the damage caused by the hazardous radioactive debris from the Cosmos 954 satellite on Canadian territory and the reasonable apprehension of further damage in view of the nature of nuclear contamination. As a result of these operations, the areas affected have been restored, to the extent possible, to the condition which would have existed if the intrusion of the satellite and the deposit of the debris had not occurred. The Departments and Agencies of the Government of Canada involved in these operations incurred, as a result, considerable expense, particularly with regard to the procurement and use of services and equipment, the transportation of personnel and equipment and the establishment and operation of the necessary infrastructure. The costs included by Canada in this claim were incurred solely as a consequence of the intrusion of the satellite into Canadian air space and the deposit on Canadian territory of hazardous radioactive debris from the satellite.

19. In respect of compensation for damage caused by space objects, the Convention provides for "... such reparation in respect of the damage as will restore ... [the claimant] to the condition which would have existed if the damage had not occurred" (Article XII). In accordance with its Preamble, the Convention seeks to ensure "... the prompt payment ... [under its terms] of a full and equitable measure of compensation to victims of such damage" (Fourth preambular paragraph). Canada's claim includes only those costs which

were incurred in order to restore Canada to the condition which would have existed if the damage inflicted by the Cosmos 954 satellite had not occurred. The Convention also provides that "The compensation which the launching State shall be liable to pay for damage under this Convention shall be determined in accordance with international law and the principles of justice and equity ..." (Article XII). In calculating the compensation claimed, Canada has applied the relevant criteria established by general principles of international law and has limited the costs included in its claim to those costs that are reasonable, proximately caused by the intrusion of the satellite and deposit of debris and capable of being calculated with a reasonable degree of certainty.

20. The liability of the Union of Soviet Socialist Republics for damage caused by the satellite is also founded in Article VII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, done in 1967, and to which both Canada and the Union of Soviet Socialist Republics are parties. This liability places an obligation on the Union of Soviet Socialist Republics to compensate Canada in accordance with international law for the consequences of the intrusion of the satellite into Canadian air space and the deposit on Canadian territory of hazardous radioactive debris from the satellite.

(b) General Principles of International Law

21. The intrusion of the Cosmos 954 satellite into Canada's air space and the deposit on Canadian territory of hazardous radioactive debris from the satellite constitutes a violation of Canada's sovereignty. This violation is established by the mere fact of the trespass of the satellite, the harmful consequences of this intrusion, being the damage caused to Canada by the presence of hazardous radioactive debris and the interference with the sovereign right of Canada to determine the acts that will be performed on its territory. International precedents recognize that a violation of sovereignty gives rise to an obligation to pay compensation.

22. The standard of absolute liability for space activities, in particular activities involving the use of nuclear energy, is considered to have become a general principle of international law. A large number of states, including Canada and the Union of Soviet Socialist Republics, have adhered to this principle as contained in the 1972 Convention on International Liability for Damage caused by Space Objects. The principle of absolute liability applies to fields of activities having in common a high degree of risk. It is repeated in numerous international agreements and is one of "the general principles of law recognized by civilized nations" (Article 38 of the Statute of The International Court

of Justice). Accordingly, this principle has been accepted as a general principle of international law.

23. In calculating the compensation claimed, Canada has applied the relevant criteria established by general principles of international law according to which fair compensation is to be paid, by including in its claim only those costs that are reasonable, proximately caused by the intrusion of the satellite and deposit of debris and capable of being calculated with a reasonable degree of certainty.

COMPENSATION CLAIMED

24. On the basis of the facts asserted and the legal principles referred to herein, the Government of Canada claims payment from the Government of the Union of Soviet Socialist Republics of the sum of \$ 6,041,174.70. Reservations

25. (a) The Government of Canada reserves its right to present additional claims for compensation to the Government of the Union of Soviet Socialist Republics in respect of damage not yet identified or determined or damage which may occur in the future as a result of the intrusion of the Cosmos 954 satellite into Canada's air space and the deposit of hazardous radioactive debris from the satellite on Canadian territory;

(b) The Government of Canada reserves its right to claim from the Government of the Union of Soviet Socialist Republics all costs that Canada may be obliged to incur in the event of the establishment of a Claims Commission under the provisions of the 1972 Convention on International Liability for Damage caused by Space Objects and the presentation by Canada of its claim to such a Claims Commission; and

(c) The Government of Canada reserves its right to claim from the Government of the Union of Soviet Socialist Republics payment of interest at an appropriate rate on the amount of compensation declared payable by a Claims Commission, such interest to accrue from the date of the decision or award of the Claims Commission.